



# UNITED STATES PATENT AND TRADEMARK OFFICE

*ph*

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,678	02/25/2004	Naoki Toyoshima	303.884US1	2999
21186 7590 04/12/2007 SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			EXAMINER GARLAND, STEVEN R	
			ART UNIT 2125	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	
3 MONTHS			04/12/2007	
			DELIVERY MODE	
			PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/786,678

**Applicant(s)**

TOYOSHIMA ET AL.

**Examiner**

Steven R. Garland

**Art Unit**

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2007 and 26 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-10, 12-15, 17-20, 23-30, 32-35, 37-40, 42-70 and 72-105 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-10, 12-15, 17-20, 23-30, 32-35, 37-40, 42-70 and 72-105 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/19/07</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1-5,7-10,12-15,17-20,23-30,32-35,37-40,42-70,72-105 are pending.

Claims 6,11,16,21,22,31,36,41, and 71 have been cancelled.

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/19/07 has been entered.

3. The amendment filed 6/26/06 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: (in the amendment to the first paragraph of page 1), the incorporation by reference of 10/789,895 is new matter. The original application, original declaration, and original preliminary amendment all lacked any reference to the 10/789,895 application or to its incorporation by reference.

Applicant is required to cancel the new matter in the reply to this Office Action.

It is suggested that the "incorporation by reference" language be deleted from the paragraph.

In response to applicant's arguments, the attempted incorporation by reference is improper. Nothing in either the original application or the original preliminary amendment indicated or even suggested that the 10/789,895 reference was being

Art Unit: 2125

incorporated by reference. Note also the attorney docket numbers are not the same for the two applications and that the docket number that was originally given was for the instant application not the other application. Further the 10/789895 was filed at a later date than the instant application thus by definition it constitutes new matter when incorporated by reference. Also see MPEP 201.06c.

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claims 61-70 and 72-105 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-10, and 12-45 of copending Application No. 11/458637. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

Art Unit: 2125

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-5,7-10,12-15,17-20,23-30,32-35,37-40, and 42-60 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-45 of copending Application No. . Although the conflicting claims are not identical, they are not patentably distinct from each other because for example comparing instant claim 1 to claim 42 of the copending application the copending claim contains every limitation of the instant claim and as such anticipates the instant claim. Similar comparisons can made for the other claims. It is also noted that the copending application is a continuation of the instant application and has the same inventors and same disclosure except for the incorporation by reference noted above.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1- 5,7-10,12-15,17-20,23-30,32-35,37-40, and 42-58 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. For example claim 1, is directed to a method of data analysis in which the claim

Art Unit: 2125

recites data gathering, performing calculations, keying the data ( relating the data to something else such as time and date ), combining the production and non-production data into a single data set and analyzing the data. However no practical application in the form of either a physical transformation or a useful, concrete, and tangible result is produced such as using the results of the analysis for control, displaying the results to a user or storing the results in a computer memory to render the claims statutory.

Similar comments apply to the other claims.

In response to applicant's arguments, page 19, line 21 on, imply that the method can be nothing more than abstract idea, a signal, etc. which are all non statutory and fail to produce a useful, concrete, and tangible result to render them statutory.

10. The disclosure is objected to because of the following informalities: in the amendment to table A in "the Calculated sample value assigned to Production Lot" for Lot 1 column, it is uncertain what is being added or deleted it since it appears two different formula's are being deleted. Also the formula for Lot<sub>i</sub> in "the Calculated sample value assigned to Production Lot" appears incorrect given that the subscripts appear to be changed. Also in claims 19, 20, 44, 45, etc. what the variable " $tS_{x-1}$ " represents should be specified, since only " $tS_x$ " and " $tS_{x+1}$ " are specifically identified.

Appropriate correction is required.

11. In view of the changes to 37 CFR 1.63 no longer requiring the oath or declaration is defective the previous objection to declaration is withdrawn

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2125

13. Claims 1-5,7-10,12-15,17-20,23-30,32-35,37-40,42-70,72-105 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For example, regarding independent claims 1,9,17,23,26,34,42,48,55,61,69,77,83,89,95,102 and their respective dependent claims the difference between the terms "non-production data" and "production data" is extremely ambiguous when the claims are read in light of the specification and which leads to great uncertainty as to what is being claimed.

For example in claim 1, lines 3-9 refer to production and non-production data, however it is unclear what is to be regarded as production data and what is to be regarded as non-production data when the claims are read in light of the specification.

It would appear that "production data" could be measurements directly related to the manufacturing process being performed ( page 6, lines 30,31, and page 7, line 1). However page 7, lines 11-22, then provides a much broader definition in that the production data can be any data ( the data is not required to even be a measurement ) that relates directly to the manufacturing process. Page 2, lines 14-17, also adds to the confusion when it is stated that " Collection of production data includes at least one of collecting parametric production data, collecting film thickness data, critical dimension data, **and any other data that is relevant to the production process and its condition.**"

Non-production data (or otherwise named as facility data ) could be data from sources not directly related to the manufacturing process ( page 7, lines 23-30).

However on page 8, lines 4-6, the definition of non-production data is broaden to any data that does not relate directly to the manufacturing process can be considered to be non-production or facility data.

Page 3, lines 16-18, describes equipment control data or equipment data as being facility (non-production ) data such control data would appear to be production data in that it is directly related to the manufacturing process if the equipment is used in the process, but by the cited text it is non production data.

Further page 3, line 16 refers to equipment data as facility data which is a form of non-production data. However page 7, lines 11-22, then refers to data such as equipment temperature as offline production data and it is not clear as to whether equipment data is to be regarded as production or non production data.

In regards to claim 2, while a form of collecting production data from a test probe is specified, however no additional guidance is provided as to what the non-production data is leading to speculation as to what it might or might not be.

In claim 19, various terms lack a proper antecedent basis such as in line 5, "the most recent facility data sampling" and lines 5-6 "the time of the most recent facility data sampling". Also in claims 19, 20, 44, 45, etc. what the variable " $t_{S_{x-1}}$ " represents is unclear, since only " $t_{S_x}$ " and " $t_{S_{x+1}}$ " are specifically identified. .

Claim 26, last line, "the manufacturing process" lacks a proper antecedent basis. Claims 34, 42, etc. have a similar problem.

The other claims have problems similar to the various examples given above.

Applicant's arguments have been fully considered but are not deemed persuasive. The examiner has provided several examples above regarding the uncertainty as to what is to be regarded as production data and what is to be regarded as non-production data in applicant's own specification. This confusion as to what is regarded as production and non-production data causes even more speculation when trying to compare the instant claims to the prior art.

In addition applicant's arguments appear to support the examiner's position in regards to the ambiguity of what is to be called production data and what is to be called non-production data. For the following reason.

In the specification on page 3, line 6 it is stated that "Generally, non-production data, also called facility data,". Then page 3, line 16 states that "A specific type of facility data is equipment control data", by these lines the equipment control data is facility data or non-production data. Applicant however argues that the equipment control data is actually production data not non-production data on page 29 of the response.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed.

Art Unit: 2125

Cir. 1999). The terms "non-production data" and "production data" used in the claims are indefinite because the specification does not clearly redefine the terms.

14. In view of the speculation required to interpret the meaning of the claims and their terms no art rejection is applied to claims 1-5,7-10, 12-15,17-20,23-30,32-35,37-40,42-70, and 72-105. See *In re Steele* 134 USPQ 292; 305 F.2d 859.

Given the speculation required to interpret the claims even more speculation would be required to interpret any applied reference given that a quantity labeled as "production data " or "non-production data" in a reference might not be due to the ambiguity of the definitions in the instant application.

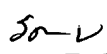
15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Funk 2005/0165731 is of interest in analysis of various factors influencing manufacturing.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven R. Garland whose telephone number is 571-272-3741. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2125

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Steven R Garland  
Examiner  
Art Unit 2125

\*\*\*



**LEO PICARD**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**